

Claims:

1. Silica particles, comprising the following physical properties:

BET surface area:	100-700 m ² /g;
DBP absorption:	100-500 g/100 g;
tamped density:	100-250 g/l;
ALPINE sieve residue > 63μ:	< 5%; and
particle sizes (cumulative volume distribution):	d ₉₅ < 40 μm;
	d ₅₀ < 20 μm; and
	d ₅ < 10 μm.

2. The silica particles as claimed in claim 1, which are precipitated silica particles.

3. The silica particles as claimed in claim 1, which are pyrogenic silica particles.

4. The silica particles as claimed in claim 1, further comprising an organic coating.

5. The silica particles as claimed in claim 1, which are hydrophobic silica particles.

6. The silica particles as claimed in claim 1, which have a w_k coefficient of less than

3.4.

7. A coating, comprising the silica particles as claimed in claim 1 and a binder.

8. A silica-filled polymer, comprising the silica particles as claimed in claim 1 and a

polymer.

9. The silica-filled polymer as claimed in claim 8, wherein the polymer is an elastomer.

5

10. A tire, comprising the silica particles as claimed in claim 1 and a rubber.

11. A process for producing silica having a narrow particle size distribution, comprising:

drying a silica suspension in a pulse combustion dryer to produce silica particles having the following particle size distribution (cumulative volume distribution):

$d_5 < 10 \mu\text{m}$;

$d_{50} < 20 \mu\text{m}$; and

$d_{95} < 40 \mu\text{m}$.

12. The process as claimed in claim 11, which is carried out at a drying temperature of 400 to 800°C.

13. The process as claimed in claim 11, wherein the silica suspension has a solids content of from 5 to 25% by weight.

14. The process as claimed in claim 11, further comprising, prior to the drying, coating the silica with an organic coating.

15. The process as claimed in claim 11, further comprising, prior to the drying, making the silica hydrophobic.

16. The process as claimed in claim 11, wherein the silica particles have a wettability coefficient of less than 3.4.

17. The process as claimed in claim 11, further comprising, after the drying, classifying the silica particles.

18. The process as claimed in claim 11, wherein the pulse combustion dryer comprises a swirl-inducing element for an air stream used in the drying.

19. The process as claimed in claim 11, further comprising contacting the silica particles with a monomer mixture, and polymerizing the monomer mixture to produce a silica-filled polymer.

20. The process as claimed in claim 11, wherein the polymer is an elastomer.